

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A computing system to facilitate attributed debugging for debugging a computer software application, the computing system comprising:
 - a processor; and
 - a computer readable storage medium storing the following components:
 - a debugger that facilitates debugging of a computer software application;
 - a debuggee that includes one or more attributes associated with the computer software application, which attributes are employed by the debugger to facilitate debugging of the software application, wherein the attributes annotate one or more of a type, field, method, or property of the software application, and wherein each of the one or more attributes contains a field, property, or method that is evaluated during debugging to customize display of corresponding annotated type, field, method, or property; and,
 - an expression evaluator that evaluates the field, property, or method of each of the ~~one or more attributes associated with the computer software application according to an attribute definition,~~ and presents debug information ~~associated with the computer software application in accordance with the attribute definition~~ representing the corresponding annotated type, field, method, or property based on the evaluation of the field, property, or method within the evaluated attribute, ~~wherein the evaluation of at least one of the one or more attributes determines that a value to be shown for a field or property of the software application is the result of an evaluation of an expression contained in the code of the software application, which value is different from the value that would be shown for the field or property when the corresponding attribute is removed, and wherein the attribute definition declaratively indicates the developer customizable format in which the debug information is displayed in a developer customizable data window.~~

2. (Previously Presented) The system of claim 1, wherein the expression evaluator evaluates an expression associated with a particular programming language.

3. (Previously Presented) The system of claim 2, wherein the programming language is at least one of C#, J# or Visual Basic.Net.

4. (Previously Presented) The system of claim 2, wherein the computer readable storage medium stores a plurality of expression evaluators, each expression evaluator associated with a particular programming language.

5. (Currently Amended) The system of claim 1, wherein the field, property, or method of one or the one or more attributes is an overridden implementation of a ToString method, and wherein the expression evaluator invokes an the overridden implementation of a the ToString method to facilitate presentationpresent of the debug information for the corresponding annotated type, field, method, or property.

6. (Currently Amended) The system of claim 5, wherein the expression evaluator employs a result of the overridden ToString method as a value to be displayed ~~for an object, field, property, or combinations thereof~~ with the debug information.

7. (Currently Amended) The system of claim 1, wherein at least one of the one or more attributes ~~determinesspecifies~~ at least one of how and whether a type or memberthe corresponding annotated type, field, method, or property is displayed during debugging.

8. (Currently Amended) The system of claim 7, wherein at least one of the one or more attributes employs an enumeration.

9. (Currently Amended) The system of claim 8, wherein one enumeration value associated with an indication specifies that the ~~type or member~~ corresponding annotated type, field, method, or property should not be displayed to the developer.

10. (Previously Presented) The system of claim 8, wherein one enumeration value associated with an indication specifies that if a type is hierarchical, it should be expanded by default.

11. (Previously Presented) The system of claim 8, wherein one enumeration value associated with an indication specifies that a type should not be expanded by default.

12. (Previously Presented) The system of claim 8, wherein one enumeration value associated with an indication specifies that a target element itself should not be shown, but should instead be automatically expanded to have its member(s) displayed.

13. (Currently Amended) The system of claim 1, wherein at least one of the one or more attributes includes a string in conjunction with the field, property, or method which string is displayed in conjunction with the results of the evaluated field, property, or method, specifies what is displayed for a class and/or field.

14. (Currently Amended) The system of claim 13, wherein ~~an argument to the attribute comprises a~~ the string that is displayed in a value column for an instance of a corresponding the class and/or field.

15. (Canceled)

16. (Previously Presented) The system of claim 1, further comprising an attribute cache directory that stores an attribute associated with the computer software application, the expression evaluator employing the stored attribute to present debug information.

17. (Currently Amended) A computer-implemented method for facilitating debugging a computer software application using attributed debugging, the method comprising:

~~determining whether that a process in~~ type, field, method, or property of a computer software application has an attribute attached thereto, ~~wherein an attributes annotates one or more of a type, field, method, or property of the software application, and wherein each attribute contains a field, property, or method that is evaluated during debugging to customize display of the corresponding annotated type, field, method, or property;~~

~~if the process has an attribute attached thereto, evaluating the~~ field, property, or method of the attribute; and according to a definition of the attribute to display debug information, ~~wherein the evaluation of the definition of the attribute determines that a value to be shown for a field or property of the software application is the result of an evaluation of an expression contained in the code of the software application, which value is different from the value that would be shown for the field or property when the corresponding attribute is removed; and~~

~~displaying the debug information representing the corresponding annotated type, field, method, or property based on the evaluation of the field, property, or method within the evaluated attribute, in a developer customizable format according to declarative indication included in the attribute.~~

18. (Currently Amended) The method of 17, further comprising at least one of the following:

~~determining whether that a ToString method has been overridden; and,~~
~~invoking the overridden ToString method to~~ generate the debug information that is displayed, ~~facilitate debugging, if the ToString method has been overridden.~~

19. (Previously Presented) A computer readable storage medium having stored thereon computer executable instructions for carrying out the method of claim 17.

20. (Canceled)

21. (Currently Amended) A computer readable storage medium storing the computer executable components of claim 1, ~~an attributed debugging system, the attributed debugging system comprising:~~

~~—— a debugger component that allows the manipulation of view data in the debugger;~~
and,

~~—— an expression evaluator component that employs an attribute definition to evaluate an attribute associated with the computer software application to present debug information associated with the computer software application to a developer, wherein the employment of the attribute definition determines that a value to be shown for a field or property of the software application is the result of an evaluation of an expression contained in the code of the software application, which value is different from the value that would be shown for the field or property when the corresponding attribute is removed, and wherein the debug information is displayed in a developer customizable format in accordance with the attribute definition and in a developer customizable data window.~~

22. (Canceled)